

ABSTRACT OF THE DISCLOSURE

The invention relates to a holographic viewing device that has a high diffraction efficiency, enables bright patterns with less noticeable conjugate or higher-order images to be viewed in place of light sources in a scene and is easy to fabricate with consistent characteristics. The holographic viewing device comprises a frame and a computer-generated hologram constructed as a transmission Fourier transform hologram and fitted in the frame. The computer-generated hologram comprises minuscule cells having pitches δ_x and δ_y , with a reconstruction image area defined by a range of spreading of \pm first-order diffracted light of given wavelength from a diffraction grating having grating pitches $2\delta_x$ and $2\delta_y$ that are twice as large as the pitches of cells, and an input image pattern, reconstructed at that wavelength in a range of up to $2/3$ of the reconstruction image area, is recorded in the computer-generated hologram.

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